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reference voltage level, and maintain a video signal with dynamic amplitude. The brightness limitation circuit detects a minimum signal level amongst the black reference signals from each colour channel and compares the minimum signal with a fixed voltage level to generate a brightness feedback signal. The brightness feedback signal is then used to modify the black reference signal level for each colour channel.

REMARKS


Attached hereto is a marked-up version of the changes made to the specification and claims by the current preliminary amendment. The attached page is captioned "**Version With Markings to Show Changes Made.**"

In view of the foregoing, applicants respectfully request that all the claims in this application be allowed and this application be passed to issuance.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at line 11 of page 1 has been amended as follows:

Television circuits are commonly designed or modified so as to further integrate the functions thereof to enable ~~operate~~ operation with low power consumption. However, discrepancies can arise when the power supply is reduced. For example, a clipping effect may occur when the signals reach a minimum or maximum voltage level. The signal may deteriorate in shape in these circumstances.

Paragraph beginning at line 17 of page 1 has been amended as follows:

As far as a waveform is concerned, the television circuit ~~required to maintain~~ requires a signal to be maintained with desired dynamic amplitude, even if the power supply is reduced. Therefore, preventative measures may be required with the implementation of a brightness limitation block to avoid the black reference voltage level and the video signals from reaching undesirable levels. Furthermore, the black reference voltage level should be controlled in a constant manner.

Paragraph beginning at line 25 of page 1 has been amended as follows:

In accordance with the present invention, there is provided a video signal processing system ~~comprising~~ that includes, for each colour channel, a control circuit and clamping circuit for generating a colour channel reference signal and controlling a colour channel video signal, and a brightness limitation circuit coupled to receive the colour channel reference signal from each of the colour channels and coupled to provide a feedback signal to regulate a brightness level of each video signal according to a comparison of a minimum signal level amongst the colour channel reference signals and a fixed reference signal level.

Paragraphs beginning at line 27 of page 2 have been amended and combined as follows:

The present invention further provides a video signal brightness controller, comprising:

that includes a plurality of colour channel control means each coupled to receive as input a respective colour channel video signal and colour channel reference signal and generate a respective adjusted colour channel video signal and adjusted colour channel reference signal;

Paragraphs beginning at line 1 of page 3 have been combined as follows:

a plurality of clamping means, each clamping means corresponding to a respective colour channel control means and being coupled to receive as input the respective adjusted colour channel video signal and adjusted colour channel reference signal and produce a corresponding clamping feedback signal; and

a brightness limitation means coupled to receive the adjusted colour channel reference signal from each colour channel control means and produce a corresponding brightness feedback signal;

wherein each of the colour channel control means includes a first adder in path of the colour channel video signal, to which the clamping feedback signal is coupled, and a second adder in the path of the colour channel reference signal, to which the brightness feedback signal is coupled.

Paragraph beginning at line 20 of page 3 has been amended as follows:

Figures 3 and 4 illustrate ~~of~~ video signals from a known system;

Paragraph beginning at line 11 of page 9 has been amended as follows:

Figure 8 shows a simplified block diagram of the circuit 30 shown in Figure 6 (for the red channel only), to further elaborate the detailed operation of the new system. Basically, the control block 4R comprises four adders: three adders are included along the Rblack signal path and one adder is included along the Rsignal path. The brightness block 8 is used to provide

brightness adjustment, the CO fine tuning block 10 is used to provide DC adjustment, and the Cut-Off block 12 is used to provide CO adjustment.

Paragraph beginning at line 18 of page 9 has been amended as follows:

As described above, if the Rblack signal from the control block 4R is less than Vrbck(minimum), a correction signal, Brilim, will be generated and fed back to the brightness block. In the brightness block the correction signal, Brilim, may be combined with a manual brightness adjustment signal, using an adder or the like, to form the ibriR signal provided to the control block. Subsequently, this signal is added to the Rblack signal so as to avoid it from falling into the minimum signal limitation zone.

Paragraph beginning at line 25 of page 9 has been amended as follows:

Alignment is performed with the use of the clamp block 6R. A comparison is made between the Rblack and Rsignal signals. An iclpR signal is then generated at the output of the clamp block which indicates the amplitude difference of both signals if they are different. Eventually, iclpR signal is added into the Rsignal signal. As such, the Rsignal signal is superimposed on the Rblack signal and alignment has been done.

Paragraph beginning at line 10 of page 11 has been amended as follows:

The foregoing detailed description of the preferred implementations of the present invention has been presented by way of example only, and it is not intended to be considered limiting to the invention as defined in the appended claims and the equivalents thereof.

In the Claims:

Claims 1-12 have been amended as follows:

1. (Amended) A video signal processing system, comprising:— for each colour channel, a control circuit and clamping circuit for generating a colour channel reference signal and controlling a colour channel video signal, and a brightness limitation circuit coupled to receive the colour channel reference signal from each of the colour channels and coupled to

provide a feedback signal to regulate a brightness level of each video signal according to a comparison of a minimum signal level amongst the colour channel reference signal and a fixed reference signal level.

2. (Amended) ~~A~~The video signal processing system as ~~claimed in~~of claim 1, wherein the brightness limitation circuit comprises a minimum detection circuit for detecting and outputting a minimum signal level from amongst the colour channel reference signals, and a comparator having as inputs said fixed reference signal level and said minimum signal level, and producing said feedback signal as output.

3. (Amended) ~~A~~The video signal processing system as ~~claimed in~~of claim 2, wherein said comparator is coupled to receive said minimum signal level at its negative input and said fixed reference signal level at its positive input.

4. (Amended) ~~A~~The video signal processing system as ~~claimed in~~of claim 2 ~~or 3~~, wherein each said control circuit includes a plurality of adders coupled in the signal path of the corresponding colour channel reference signal, and wherein said feedback signal is coupled as input to one of said adders.

5. (Amended) ~~A~~The video signal processing system as ~~claimed in~~of claim 4, wherein said feedback signal is coupled from the brightness limitation circuit to the control circuit by way of a brightness control circuit which enables manual brightness adjustment of the colour channels.

6. (Amended) ~~A~~The video signal processing system as ~~claimed in~~of claim 5, wherein said brightness control circuit incorporates an adder for combining the feedback signal with a manual brightness adjustment signal.

7. (Amended) ~~A~~The video signal processing system ~~as claimed in~~of claim 4, further including at least one cut-off adjustment circuit coupled to provide input to a respective adder in the signal path of the colour channel reference signal in each control circuit.

8. (Amended) ~~A~~The video signal processing system ~~as claimed in any one of claims 1 to 7,~~ wherein each said control circuit includes an adder circuit coupled in the signal path of the corresponding colour channel video signal, and wherein a feedback signal from said clamping circuit, generated according to the colour channel video signal and the colour channel reference signal, is coupled as input to the adder circuit.

9. (Amended) A video signal processing circuit for regulating colour channel video information signals, comprising: a minimum signal detector for detecting a minimum signal level amongst a plurality of colour channel reference signals, a comparator ~~which~~that compares said minimum signal level with a fixed voltage reference signal and generates a corresponding output, and an additive feedback coupling of said comparator output signal and each of said colour channel reference signals.

10. (Amended) ~~A~~The video signal processing circuit ~~as claimed in~~of claim 9, ~~including comprising~~ a brightness control circuit for adjusting the video signal brightness level by manual adjustment of said colour channel reference signals, wherein said additive feedback coupling of said comparator output signal is coupled through said brightness control circuit.

11. (Amended) A video signal brightness controller, comprising:
a plurality of colour channel control means each coupled to receive as input a respective colour channel video signal and colour channel reference signal and to generate a respective adjusted colour channel video signal and adjusted colour channel reference signal;
a plurality of clamping means, each clamping means corresponding to a respective colour channel control means and ~~being~~ coupled to receive as input the respective adjusted colour channel video signal and adjusted colour channel reference signal and to produce a corresponding clamping feedback signal; and

a brightness limitation means coupled to receive the adjusted colour channel reference signal from each colour channel control means to produce a corresponding brightness feedback signal;

wherein each said colour channel control means includes a first adder in path of the colour channel video signal, to which said clamping feedback signal is coupled, and a second adder in the path of the colour channel reference signal, to which said brightness feedback signal is coupled.

12. (Amended) ~~A~~The video signal brightness controller ~~as claimed in of~~ claim 11, wherein said brightness limitation means comprises a minimum signal level detector or detecting a minimum signal level ~~amongst~~from among the plurality of adjusted colour channel reference signals, and a comparator for generating said brightness feedback signal on the basis of the detected minimum signal level and a fixed reference signal level.

In the Abstract:

The Abstract has been amended as follows:

~~Television circuits which operate at low voltages can have difficulties with signal clipping effects. Accordingly, a~~ A brightness limitation system is employed in ~~such a~~ television circuit to prevent the black reference voltage level and the video signal from entering a minimum signal clipping zone, to provide precise correction signal, limiting the brightness, to maintain a constant black reference voltage level, and maintain a video signal with dynamic amplitude. The brightness limitation circuit detects a minimum signal level amongst the black reference signals from each colour channel and compares the minimum signal with a fixed voltage level to generate a brightness feedback signal. The brightness feedback signal is then used to modify the black reference signal level for each colour channel.